

Synchaeta tavina (sp. novo).

By JOHN HOOD, F.R.M.S. Plate XVII.

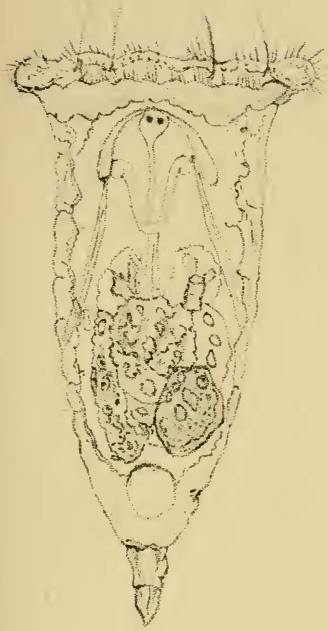
IN March and April of this year (1893), I trawled out of the waters of the Firth of Tay in great numbers a large rotifer resembling in outward form the fresh-water species, *Synchaeta tremula*, Ehrn., but which was much larger in size. It not only differs in the nature of its habitat and in bodily dimensions, but there is also a slight difference in the arrangement of the frontal ciliary wreath; the coronal cilia are arranged in cushion-like tufts, very suggestive of the ciliary arrangement of *Hydatina senta*, with the addition of a pair of small ciliated auricles, one on each side; these auricles are present to a greater or less degree in each species of the genus *Synchaeta*.

There are now eight or nine species of the genus known to scientists. Seven of these have their corona formed in a more or less convex or rounded shape. But *S. tremula* and the new marine species—which I propose to call *Synchaeta tavina*, after *Tavus*, the classical name of the river Tay—have their corona truncated, or flat across the frontal head, and each are furnished with four long rigid bristles or styles, set nearly equi-distant on the coronal head. Their function is probably that of feelers or organs of touch.

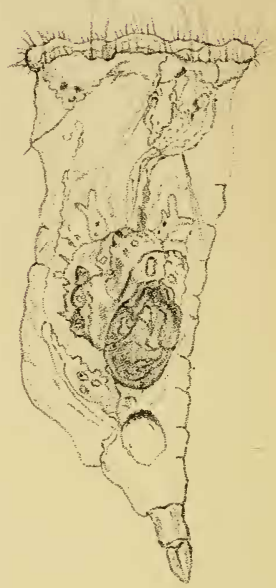
The chief characteristic and specific difference between other species of *Synchaeta* and the *S. tavina* is that the latter has two occipital eyes, while all the other eight species possess one eye only. The two eyes in *S. tavina* are set close together; they are of a dark reddish colour, situated on the lower lobe of the occipital nervous ganglion or brain.

The eyes are large and are quite readily observed from either a dorsal, ventral, or lateral view. A nerve-thread leads from the base of the brain to the dorsal antennæ, situated in the neck. There are a pair of γ -shaped gastric glands at the top of the stomach—one on each side of the œsophagus—which is peculiar to *S. tavina*, whilst in all the other species the gastric glands are round.

The Mastax and the arrangement of the other internal organs



Dorsal view.



Side view.



Jaws.

are similar to the other species of the genus. I noticed that the stomach of all the specimens I have examined were packed full of a brownish matter. *S. tavina* is a vigorous swimmer. Its motions are zigzag or in spiral circles. I have never witnessed it indulging in spinning round on its own axis and occasionally remaining steady in the field of view, as is the habit of its fresh-water sister, *S. tremula*, but it always appeared dashing on at a rapid speed.

I have never observed a single specimen carrying its eggs at its foot—a practice which I have frequently observed in *S. tremula*.

It is to me a very remarkable fact that I have only found this creature in any considerable numbers at high water on spring tides; and although I have repeatedly trawled for it at high water at neap tides, I have seldom found a half-dozen specimens. But when spring tides came round, during March and April, it was found in great abundance. This phenomenon I cannot explain, except it be that, like the herring, *S. tavina* always keeps in shoals.

Occasionally I have found it associated with *Synchæta baltica*, Ehrn.; *Pterodina clypeata*, Ehr.; *Distemma raptor*, Gosse; *Diglena suila*, Gosse; and invariably with *Notholca thelassica*, Gosse; *Notholca schapha*, Gosse; *Notholca Hoodii*, Western; and with varieties of Entomostracans, Infusoria, and Marine Diatoms of various forms, most especially the *Pleurosigma angulatum* and *P. elongatum*; while the delicate *Amphiprora constricta* was always present in the sediment.

The male has not yet been observed. A few females were observed with ephippial eggs within their body-cavity, which clearly indicated that the male had been present a short time previously, but had escaped observation.

The length of fully-developed adults is from one-seventieth to one-eightieth of an inch.

EXPLANATION OF PLATE XVII.

- Fig. 1.—*Synchæta tavina*, side view.
 ,, 2.—The same, dorsal view.
 ,, 3.—Jaws of *Synchæta tavina*.